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FAX

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October 27, 2004

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From: Dolores Savignano, DEQ

No. of Pages:
(including cover sheet) 4 pages

Subject: Docket No. 03-101-2; Comments on NOI to prepare an EIS on petition for deregulation of genetically engineered Glyphosate-Tolerant Creeping Bentgrass.

Please accept the attached memorandum as the comments from the Fish and Wildlife Service. Apologies for our tardiness in submitting these.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mountain-Prairie Region

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OCT 19 2004

Memorandum

To: Chief, Division of Environmental Quality
Attention: Everett Wilson

From: Assistant Regional Director, Ecological Services, Region 6 Mary G. Henry

Subject: NOI for the Petition for Deregulation of Genetically Engineered Glyphosate-Tolerant Creeping Bentgrass (*Agrostis stolonifera)* (ER 04/0712)

The Ecological Services Office, Region 6, has reviewed the subject document and offers the following comments.

The U.S. Fish and Wildlife Service (Service) appreciates that the Animal and Plant Health Inspection Service (APHIS) intends to prepare an Environmental Impact Statement (EIS) on the subject petition for deregulation. We have reviewed the materials referenced in the Federal Register Notice and believe there are significant concerns that warrant further study and review prior to possible deregulation. The topic areas you have identified for further review are appropriate and further information on these topic areas will be necessary for the Service to evaluate potential impacts of deregulation on fish and wildlife resources as follows.

Herbicide resistance, weed management, and vegetation control

The reference materials explain that despite certain taxonomic questions, *Agrostis stolonifera* and other closely related *Agrostis* species have spread and naturalized into most wetland and riparian habitats throughout the United States. Generally, they have not been weedy or obviously displaced native vegetation. However, there are other species that are invading the same habitat types which do threaten native biodiversity. One of the most environmentally benign herbicides, especially for use near aquatic habitats, is glyphosate. In circumstances where weed control is desirable in wetland or riparian areas and glyphosate is used, we are concerned that if glyphosate-resistant *Agrostis* species are present, they may spread or become more dominant as target weedy species are reduced or eliminated, thus preventing or impeding native vegetation community restoration. Alternatively, herbicides more toxic to natural systems may

need to be used to achieve restoration or management objectives. We believe that the reference materials so far presented do not adequately evaluate the effects of deregulation of glyphosate-resistant *Agrostis* on natural systems. Rather, they concentrate on grass-seed production and weediness in agricultural settings. Further, the documents underrepresent the extent to which both native and nonnative *Agrostis* species are present in natural systems and also the extent of currently ongoing active management and restoration of natural systems.

Hybridization and introgression

The references indicate that hybridization does and will occur. However, they are ambiguous as to the extent and outcome of such hybridization. We are less concerned about the potential for hybrids to become more invasive or weedy (because the literature does not seem to indicate that outcome is likely). However, we are concerned about transfer of glyphosate resistance to either or both native and nonnative *Agrostis* or *Polypogon* species.

Threatened and endangered species

We are aware of a number of threatened, endangered, candidate, and conservation agreement species that occur in habitats in which *Agrostis* species are present. The following topics, at a minimum, should be evaluated:

- Effects on native plant community composition of establishment of glyphosate-resistant *Agrostis* or *Polypogon* species, including effects due to differential response of species with respect to management activities such as weed control with herbicides.
- If effects are found, changes in habitat suitability for threatened, endangered, candidate, and conservation agreement species and migratory birds of conservation concern.
- Effects on native plant and animal species, soil biota and chemistry, and water quality from substitution of use of other approved herbicides in place of glyphosate.
- Acute or chronic toxicity to native species, including insects, of consumption of live or decomposing plant materials of glyphosate-resistant species.

Precedence

We are concerned about the precedent of deregulation of genetically engineered species, especially those that are perennial, widespread, outcrossing and wind pollinated. We are particularly concerned about species that are genetically engineered to be resistant to methods of control. Possibly the greatest threat to native biodiversity and fish and wildlife resources is invasive species. We will need every possible tool to manage this threat. Further, we must retain those tools that are least harmful both in the short and long run. We believe that careful evaluation and regulation should be required for release of genetically modified organisms into the natural world.

Cumulative effects

One of the most invasive species in wetland and riparian habitats is tamarisk. Many control and management methods are currently being tried and applied, including the use of glyphosate. Additionally, APHIS is currently proposing a general release of a leaf beetle for biocontrol of tamarisk. The effects of these efforts in combination with the proposal for deregulation of glyphosate-resistant *Agrostis* should be evaluated.

Impacts on unique geographic areas or significant scientific, cultural, or historical resources

As previously mentioned, *Agrostis* species have naturalized in wetland and riparian areas throughout the country. These areas are recognized as being of disproportional importance to fish and wildlife resources and water quality, among other values. Presence of glyphosate-resistant *Agrostis* and *Polypogon* species should be carefully evaluated with respect to impacts on wetland and riparian values and services and with respect to impacts on management to restore, protect, or improve those values.

Uncertainty

History is replete with examples of unintended or unanticipated consequences of well-intended biological manipulations implemented by humans. Our knowledge of natural systems continues to grow as well as our appreciation for the complexities and the unknowns. It is essential that we implement only those activities whose potential biological outcomes are clearly more beneficial than the biological consequences of doing nothing. For example, that is the rationale for biocontrol of nonnative invasive species. In the case of broadscale use of glyphosate-resistant *Agrostis*, it has not yet been demonstrated to our satisfaction that there is a clear biological or ecological benefit. There may be sufficient benefit to warrant continued regulation and use in specific situations. We hope that the EIS will provide more information on this issue.

Mitigation

We suspect that environmental consequences will be difficult to detect and may not be significantly detectable for some years. Further, it is unclear how, for example, alterations in competitive balance of plant species in wetland habitats, could be mitigated without causing further damage, or who would be responsible for implementing mitigation should it be recognized as necessary or desirable. As previously mentioned, the references do not adequately consider the likelihood of effects on natural systems. We recommend that the EIS remedy this deficiency. Further, we are willing to work with APHIS and others to help determine effects, avoidance measures, and mitigation measures for unavoidable impacts to fish and wildlife resources.

We appreciate the opportunity to comment on APHIS' plan to conduct a thorough evaluation of the petition to deregulate glyphosate-resistant creeping bentgrass. If you have any questions or need further information, please contact Connie Young-Dubovsky in the Ecological Services Office, Region 6 at (303) 236-4265.